NOTES ON *JUNCUS HOLOSCHŒNUS*, R.Br., AND *J. PRISMATOCARPUS*, R.Br.; AND ON CERTAIN OTHER NEW SOUTH WALES PLANTS.

By Edwin Cheel.

In his 'Prodromus' (p. 259) R. Brown described two species of *Juncus* under the names of *J. holoschœnus* and *J. prismatocarpus*, which he distinguished chiefly by the following characters:

J. holoschœnus.

Stems terete, *leaves* nearly terete, both articulate. *Panicle* terminal, with one leafy bract at its base articulated like the leaves. *Flowers* numerous, in globular clusters; perianth-segments acute. *Stamens* 6. *Capsules* prismatic, as long as the perianth-segments. *Seeds* striate.

J. prismatocarpus.

Stems compressed, *leaves* alternate, upright [verticalibus]. *Panicle* terminal, spreading. *Flowers* numerous, in globular clusters; perianth-segments subulate. *Stamens* 3. *Capsules* prismatic, longer than the perianth-segments. *Seeds* obscurely striate.

Robert Brown had seen both species under natural conditions. From the study of herbarium material Bentham came to the conclusion that R. Brown's distinctions could not be upheld (B.Fl. vii., 131); he therefore united the species and adopted the name *J. prismatocarpus*. It appears to me, however, that these plants are quite distinct; for they may readily be distinguished in the field by their different habit, as well as by some very important structural differences.

J. holoschœnus is a more dwarf plant than *J. prismatocarpus*, producing erect, nearly terete stems from a creeping perennial rhizome. The leaves are slender and semiterete, of a dark green colour and quite hollow inside except for transverse partitions of

pith which give them a jointed appearance readily seen in herbarium specimens. These, I presume, are the "articulations" mentioned by R. Brown. I have examined numbers of plants of this species throughout the Port Jackson district in the living state, and have never found less than six stamens present. These are best seen on a dull damp morning when the flowers may be found to be fully expanded. The seeds are of a brownish colour, and prominently striate, as may be easily seen under an ordinary pocket lens.

J. prismatocarpus is a much taller plant than the former species, and usually grows in tufts, hardly ever producing a creeping rhizome. The leaves are much broader and more compressed, appearing almost flat; they are of a yellowish-green colour and are not hollow inside like those of *J. holoschœnus*, but have three longitudinal partitions of pith extending from base to apex; these are again divided by transverse partitions, but are not so prominent as are those of *J. holoschœnus*. The stamens are only three in number. The seeds are much lighter in colour, appearing almost transparent, and are obscurely striate.

The internal structure of the leaves appears to me to be a very important character to be observed in the determination of these two species; and may easily be detected by splitting open the leaves. By kind permission of Mr. J. H. Maiden, F.L.S., Director of the Sydney Botanic Gardens, I have examined all the specimens labelled *J. prismatocarpus* in the National Herbarium, which are from various parts of Australia and Tasmania. Some of the Tasmanian specimens closely resemble in outward appearance the plants of *J. prismatocarpus* grown in dry situations in New South Wales. I find that plants of both species, if grown in dry situations, so closely resemble each other as to appear almost identical, "their natural habitat being in swampy ground." But by applying the test of splitting open the leaves it will be found that the hollow-leaved plants (*J. holoschœnus*) have six stamens, whilst the longitudinally partitioned ones have only three. A further test was made by me by sowing some carefully selected seeds of each of these species in separate pots which received the

same treatment. At a very early stage a different habit of growth could readily be distinguished, as well as the difference in leaf-structure, which is identical with that of the respective adult plants.

The specimens in the National Herbarium examined and separated by me are from the following localities :—

J. HOLOSCHÆNUS.

New South Wales:—Bondi, near Sydney (E. Betche; May, 1883); Bowral (A. H. S. Lucas; January, 1894); Snowy Mountains (W. Bäuerlen; 1890); Walcha District, New England (E. Betche; December, 1898); Centennial Park, Sydney (E. Cheel; January, 1898).

Victoria:—Wimmera and Oakleigh (C. Walter; October, 1900).

Tasmania:—Cascades (L. Rodney; 1898).

J. PRISMATOCARPUS.

New South Wales:—(Dr. Leichhardt); Kogarah (J. H. Camfield; November, 1893, with note as follows :—"Tall variety with flat leaves and with very indistinct cross-partitions; apparently always aquatic"); Tia River, New England (E. Betche; December, 1898, with note as follows :—"Identical with an almost aquatic form from Kogarah; cross-partitions of leaves very indistinct"); Conjola (W. Heron; February, 1899); Menangle (Mr. Harper); Centennial Park, Sydney (E. Cheel; January, 1898; with note drawing attention to the indistinct cross-partitions of the leaves, and the differences in the number of stamens and in the seed as compared with the preceding species).

CARYOPHYLLEÆ.

Silene inflata, Sm. (Fl. Brit. 467 = *Cucubalus Behen*, L., Eng. Bot., p. 164). Centennial Park (E. Cheel; December, 1901). An introduced weed not previously recorded except from the Wagga district (these Proceedings, 2nd Ser., iv., p. 1055).

Leguminosæ.

Ornithopus perpusillus, Linn.—Centennial Park, Sydney (E. Cheel; November, 1899). An introduced naturalised weed not previously recorded from New South Wales.

Epacrideæ.

Leucopogon exolasius, F.v.M.—Woronora River (E. Cheel; October, 1901). Previously recorded only from near Camden (Bentham's 'Fl. Aust.'; and the 'Handbook of the Flora of N.S. Wales').

Monotoca ledifolia, A. Cunn.—Woronora River (E. Cheel; October, 1901). Previously recorded only from the Blue Mountains (Benth. 'Fl. Aust.'; and 'Handbook of the Flora of N.S. Wales'). There are also specimens in the National Herbarium from Woronora River (collected by Mr. E. Betche in January, 1894, but not recorded).

Orchideæ.

Thelymitra pauciflora, R.Br.—Woronora River (E. Cheel; October, 1901). Previously recorded from Hunter's Hill, Sydney, and Mount Wilson (Benth. 'Fl. Aust.'; and 'Handbook of the Flora of N.S. Wales').